# Urban Warfare Discussion

# 6th Annual NDIA

# S & E Technology Conference

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# Urban Warfare Discussion Outline

- Context
- Historical Considerations
- Opinions Concerning Current Capabilities and Possible Improvements
- Summary
- Question and Answer Session

# Context

- Purpose:  Achieve Political Objectives….

…Through control of Land, People and Resources*

- Assumptions
  - Urban Operations are an Included Force Design Case
  - General Purpose Forces with Appropriate Training Can Succeed in such Operations
  - Their Materiel is Adaptable

* Papers written by Lt. Gen Paul Van Riper (USMC, Ret.) and MG Robert Scales (USA, Ret.)

# One Description of Current U.S. Force Capability Sizing

- Descriptor:  1-4-2-1
- Meaning
  - 1 = Defend Homeland
  - 4 = Provide Forward (Overseas) Presence Circumstances
  - 2 = Conduct Near Simultaneous Regional Conflicts
  - 1 = Conduct Extended Stabilization Campaign

**Urban Challenges are again Implicitly Included**

# History

| | | |
|---|---|---|
| Stalingrad (1943) | Beirut (1982-84) | Baghdad (2003) |
| Aachen (1944) | Mogadishu (1992-1994) | Najaf (2003-04) |
| Manila (1945) | Groznyy (1994-96-2000) | Kirkuk (2003) |
| Hue (1968) | | Fallujah (2004) |

## Trends

- Slow Expansion of Innovations at the Operational Level of War
- More Rapid Expansion of Tactical Combined Arms and Recent Joint $C^2$ and Execution Collaboration
- Evolutionary Improvements in Survivability and Controllable Lethality at the very point of the Tactical Spear

# Proposed Capabilities Pillars for Discussion

Intellectual Underpinning
Manning the Force *
Training
Networks and Collaboration
ISR
Survivability
Lethality
Mobility

* Mentioned because of its centrality but not discussed in detail

**Opinions**

# Intellectual Underpinning and Training

- Exploiting a Broad Body of Lessons Learned from the Field
- Expanded Concepts for Improvements at the Operational Level of War
- Expanded Urban Operational-Tactical Training Facilities.
- Large Scale but detailed Constructive Tools.

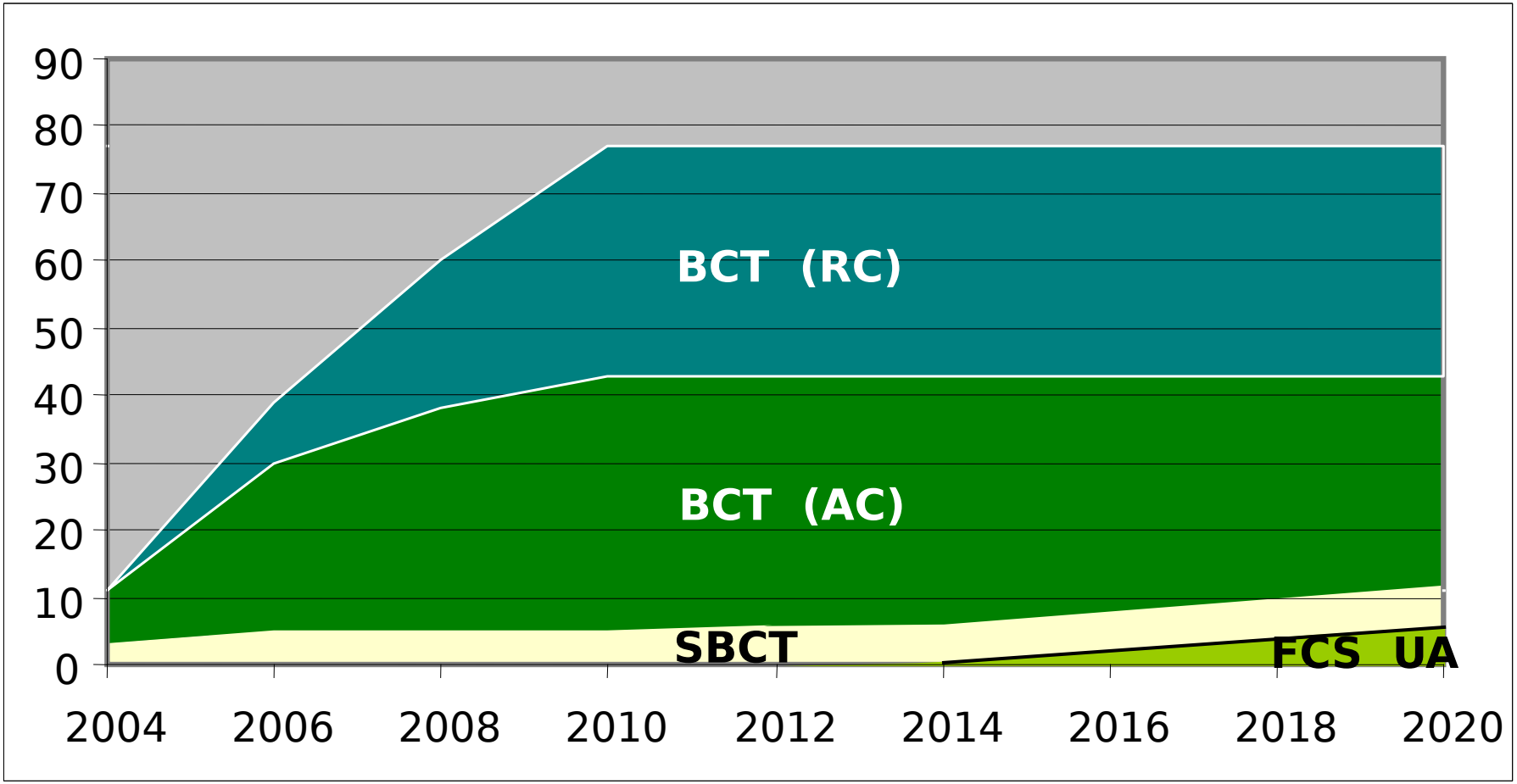
- High Resolution “Cause and Effect” Experimentation

**Opinions**

# Leveraging Networks and Collaboration

- Serious Physics, Engineering and Technical Operating Challenges
  - Transport Path Establishment and Related Losses
  - Establishment of Reliable Networks of Adequate Quality of Service
  - Forming Networks of Useful Scales
- Approach being pursued involves
  - “3D” Geometries
  - Clusters and “Points of Presence” Topologies
  - Advanced Waveforms and Automated Network Control
  - Affordable Electronically Steerable Antennas

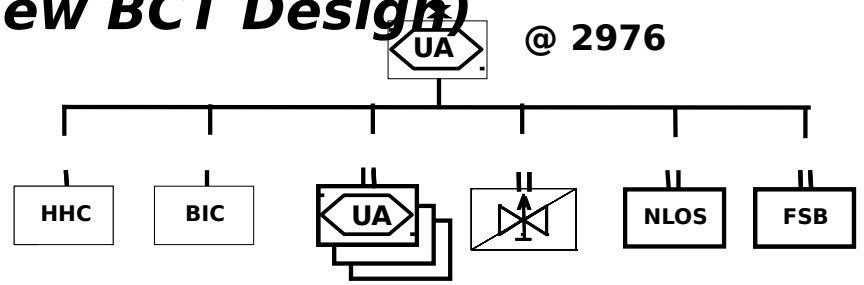
# BCT Conversion & FCS Fielding Schedules



# Heavy & Infantry BCT Transition to FCS UA

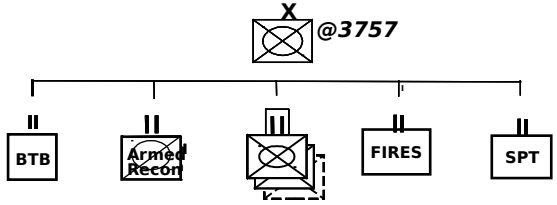
## *(Synergy of New BCT Design)*

- **BCT Design and TOE are Deliberately FCS-like**

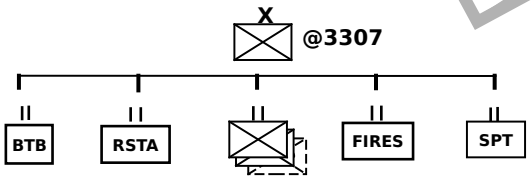


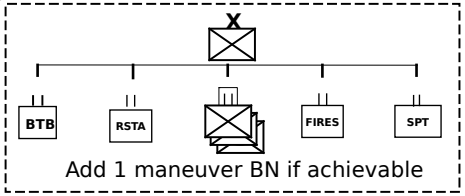


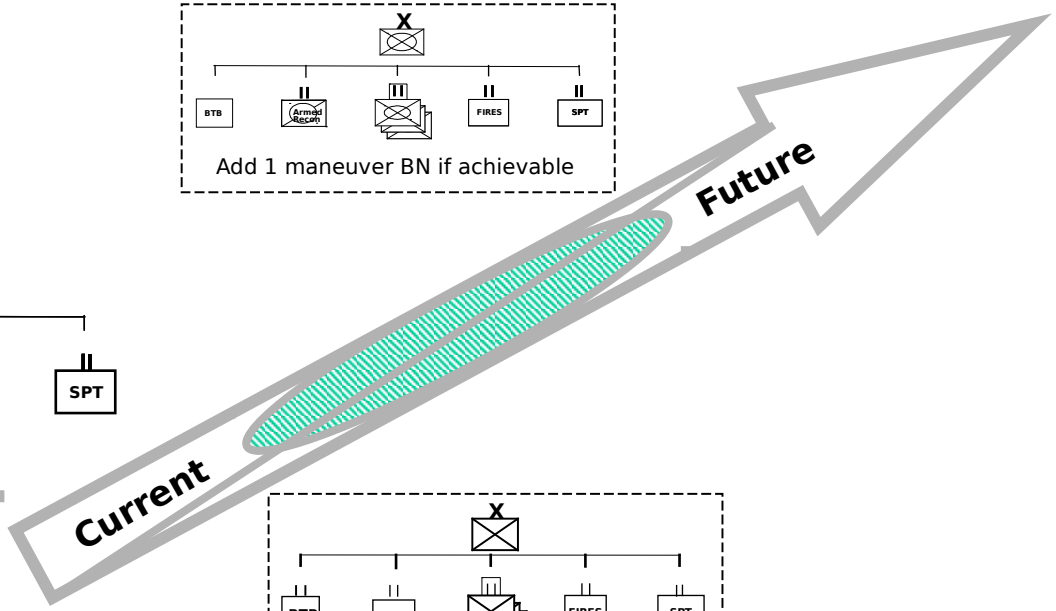





**Current BCTs**




**Modular Conversion Complete**

**FCS 1st UA FOC**

2004 — 2007 — 2012

# Opinions: ISR Capabilities

- Today's ISR (and target acquisition) systems are limited individually by urban circumstances.
- Improving urban ISR capabilities for all echelons will require
  - A much better definition of signatures and clutter than is now available
  - Layered Sensors that are "networkable"
  - Technical augmentation for all human collection, not just trained HUMINT specialists and Search and Correlation Software Advances
  - Standoff and Identification achieved through new system of heterogeneous system architectures

# Opinions: Survivability

- Some Survivability enhancements apply equally well across the combat spectrum
  - Passive Protection
  - Reactive Protection
  - Active Protection
- Proactive, Preventive and Retributive enhancements require ISR advances. When achieved these have the added advantage of being deterrents as well
- Directed Energy in its various forms should be considered as competitive means for the above
- Robotics contributions appear to be substantial but until FCS is fielded, these are being applied slowly

# Opinions: Lethality

- Urban engagement execution could be enhanced with 3-D weaponry within the confines of the Urban Canyons
- The Large Diversity of U.S. Inventory weapons suggests investigation of such possibilities.

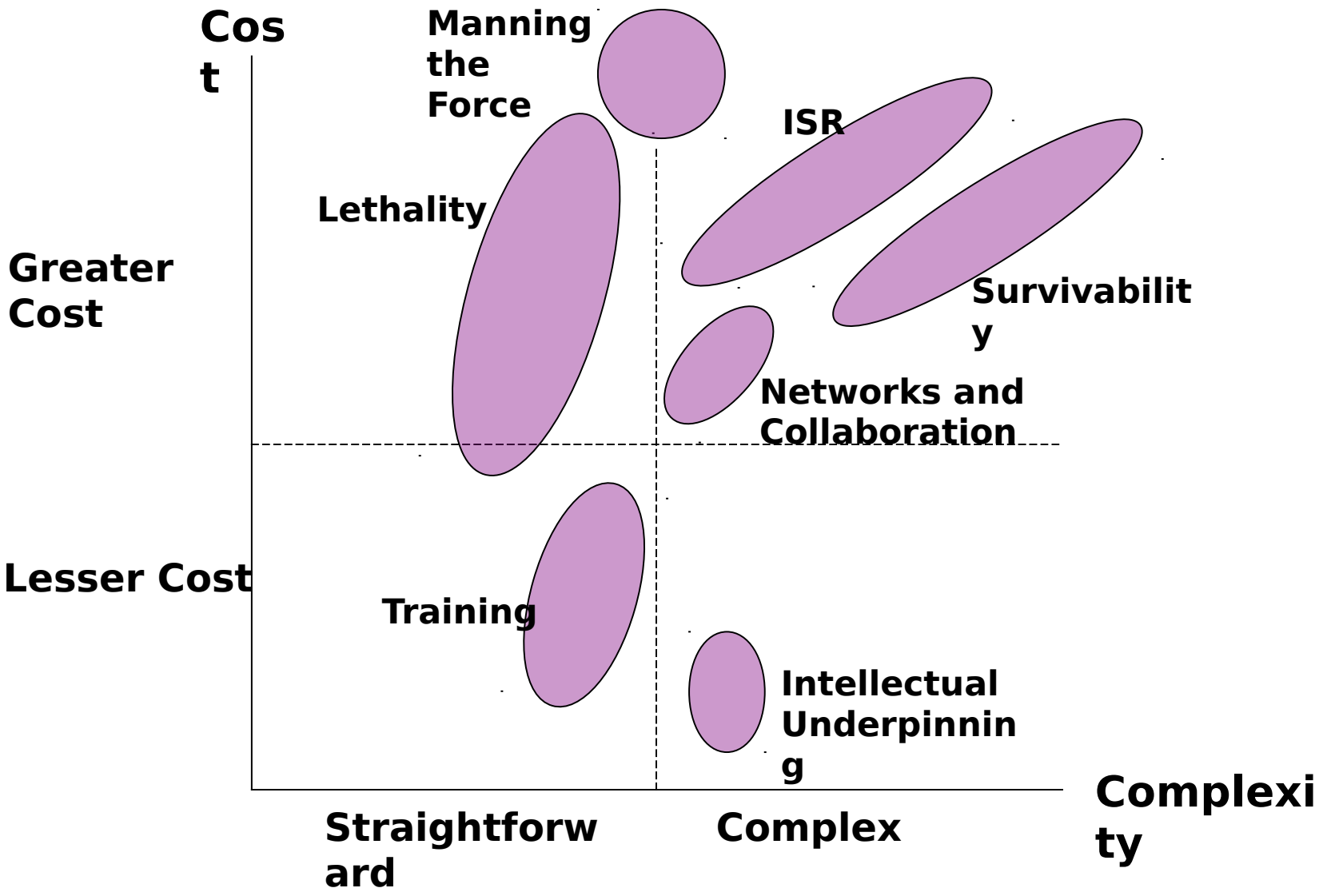
## Opinions: Mobility

- With the exception of Heavy Lift VTOL, now under study, there are no Urban related mobility advances being pursued

# Combined “Scoreboard” (Concepts and Technologies)

| Capabilities Pillar | Now | Near Term | Far Term |
|---|---|---|---|
| Intellectual Underpinning | **X** | **X** | |
| Training | **X** | **X** | **X** |
| Networks and Collaboration | | x | **X** |
| ISR | x | x | **X** |
| Survivability | | x | **X** |
| Mobility | | | **X** |
| Lethality | x | **X** | **X** |

# Opinions


Cost
Manning the Force
ISR
Lethality
Greater Cost
Survivability
Networks and Collaboration
Lesser Cost
Training
Intellectual Underpinning
Straightforward
Complex
Complexity

Questions?